Vapor-Liquid Equilibria of Isomer Butanols-1,4 Dioxane Mixtures

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A part of a continuing study of mixtures containing 1,4-dioxane experimental P-T-x-y data were determined for tert-butanol-1,4-dioxane, iso-butanol-1,4-dioxane, and n-butanol-1,4-dioxane mixtures using an ebulliometer. The data have been correlated using five popular activity coefficient models. The results of these correlations have been compared.

Futhermore, a database has been created for the vapor-liquid equilibria (VLE) of alkane-1,4 dioxane and alkanol-1,4-dioxane mixtures and the UNIFAC group interaction parameters for these mixtures have been evaluated. These new parameters have improved the predictions for the VLE of these systems considerably.